levels and a deletion/insertion (D/I) polymorphism of the ACE gene with pulse pressure (PP), a correlate of left ventricular hypertrophy and atherosclerosis. Study subjects (290 men, 321 women; age 52 to 67 years) participated in a population based survey with blood pressure measurements in 1984, 1988, and 1994. PP was identified as the difference between systolic and diastolic blood pressure. In the total study sample no associations were found between PP and ACE activity or D/I genotype. By contrast, normotensive men (n = 166) showed borderline significant associations of ACE activity with PP (correlation 0.15, p = 0.06). The D/I genotype distribution was in accordance with Hardy-Weinberg equilibrium: DD32%, ID47%; II20%. PP was highest in normotensive men with DD (52 mmHg), intermediate for ID (50 mmHg), and lowest for II (48 mmHg; DD vs II: p = 0.028). Pulse pressure in the highest quartile of the pp distribution were 5.1 times more common among DD men than II men (p = 0.015). Moreover, genotype specific PP differences of consistent magnitude and direction as in 1994 were detectable for blood pressure measured in the same men in 1988 (p = 0.1) and in 1984 (p = 0.04). In addition, multivariate analysis showed that the association between D/I genotype and PP was partially mediated by serum ACE. No such associations were found in women. This study indicates that in men genetically determined ACE levels may be related to pulse pressure, a finding that may help to explain positive associations found between ACE and structural alterations such as arterial wall thickness. The consistency of the association over a period of ten years is remarkable and supports the validity of the observation.

955-98 Systolic Blood Pressure in Hypertensives Is a Predictor of Left Ventricular Mass and Carotid Intima-Media Thickness

Rajdeep S. Khattar, Devikumar Acharya, Roxy Senior, Edward B. Raftery, Avijit Lahiri. *Northwick Park Hospital, Harrow, UK*

Myocardial and arterial structural changes are of major prognostic significance in hypertension. To determine the relationship between clinical parameters, left ventricular mass and arterial wall thickening, we randomly assessed 80 treated hypertensives with either a mean intra-arterial ambulatory systolic blood pressure (SBP) ≥ 140 mmHg, diastolic blood pressure (DBP) ≥ 90 mmHg or both at initial diagnosis. Echocardiography was performed and left ventricular hypertrophy (LVH) was considered present if LV mass index (LVMI) was ≥ 110 g/m^2 for women and ≥ 130 g/m^2 for men. Ultrasonographic carotid intima-media thickness (IMT), resting clinic BP, body mass index (BMI), random cholesterol (Chol), and duration of hypertension (DUR) were also determined. t tests were performed to compare those with and without LVH:

	Age	BMI	SBP	DBP	DUR	Chol	IMT
LVH– (n = 46)	57.2	26.5	158	94	9.1	5.49	0.062
LVH+ (n = 34)	62.6	27.4	168	96	10.6	5.46	0.074
p value	0.03	0.38	0.01	0.59	0.04	0.89	0.0002

Logistic regression analysis showed that IMT was the only independent correlate of LVH (p = 0.001). A separate analysis showed that age, DUR, SBP and LVMI were significantly correlated to IMT. Subsequent stepwise multiple regression analysis revealed LVMI (p = 0.007) and SBP (p = 0.02) to be the best predictors of IMT. Notably resting clinic BP did not correlate with LVMI or IMT. The close positive asssociation between LVMI, IMT and systolic blood pressure, in hypertensives on long term medical therapy may have important prognostic implications.

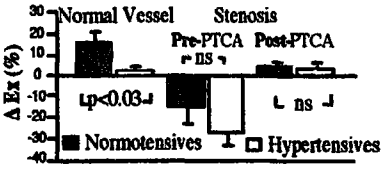
955-99 Vasoconstriction of Stenotic Coronary Vessel Segments in Normotensive and Hypertensive Patients: Reversal After Coronary Angioplasty

Jürgen Frielingsdorf, Philipp Kaufmann, Thomas Suter, Christian Seiler, Otto-Martin Hess. *Cardiology, University Hospital, Zürich Switzerland*

Endothelial dysfunction of smooth coronary arteries has been reported in patients with arterial hypertension. However, the effect of dynamic exercise on coronary vasomotion of a stenotic vessel segment before and after percutaneous transluminal coronary angioplasty (PTCA) has not yet been evaluated. Coronary vasomotion of a normal and a stenotic vessel segment was studied in 21 patients with coronary artery disease before (percent area stenosis 76 ± 15%) and 9 ± 8 months after PTCA (39 ± 13%) at rest and during supine bicycle exercise using biplane quantitative coronary angiography. Patients were divided into 2 groups: group 1 (n = 11) with hypertension (blood pressure ≥ 160/95 mmHg) and group 2 with normal blood pressure (n = 10). The two groups did not differ with regard to clinical variables, serum cholesterol, body mass index and exercise capacity. Mean aortic pressure and the percent change of coronary luminal area during exercise (ΔEx, %) were as follows:

Mean aortic pressure (mmHg)

		Group 1	Group 2	p
Before	Rest	108 ± 14	94 ± 11	<0.04
PTCA	Ex	119 ± 20	101 ± 16	<0.005
After	Rest	109 ± 11	90 ± 13	<0.002
PTCA	Ex	120 ± 13	107 ± 7	<0.02



Conclusions: Abnormal vasomotion of normal coronary arteries is observed in hypertensive patients which can be explained by endothelial dysfunction. Stenotic vessels show enhanced vasoconstriction during exercise in both nomo- and hypertensive patients before PTCA. This behavior of the stenotic vessel segments appears to be either due to endothelial dysfunction, increased alpha-adrenergic stimulation, and/or enhanced platelet aggregation which is reversed with the reduction of the stenosis by PTCA.

955-100 Detection of Coronary Artery Disease by Dobutamine Stress Echocardiography in Hypertensive Patients

Jean-Marc Paemelaere, Agnès Sirinelli, Danielle Casset, Jean-Marie Pottier, Bernard Desveaux, Laurent Quilliet, Luc Maillard, Philippe Raynaud. *Cardiology Department, Trousseau University Hospital, Tours, France*

Patients (pts) with systemic hypertension (SH) frequently have angina pectoris despite a normal coronary angiogram (NCA). The results of dobutamine stress echocardiography (DSE) and dipyridamole thallium-201 scintigraphy (DTS) were compared to assess their values for the detection of coronary artery disease (CAD) in hypertensive pts, who had chest pain, positive exercise testing and no previous history of CAD.

Nineteen consecutive pts (3 males, mean age 62.2 years, range 48–71 y) had graded DSE (5–40 mcg/kg/min until end-points were achieved), DTS (with reinjection) and coronary angiography. Significant CAD, defined as a > 50% diameter stenosis, was present in 10 pts with 4 multi-vessel disease. Nine pts had NCA. Side effects of DSE were: SH (10.5%), supraventricular (21%) and ventricular (10.5%) arrhythmias, junctional rythm (5.2%), chest pain (15.7%).

The results were as follows:

	DSE	DTS
Sensibility (%)	50	50
Specificity (%)	100	77
Positive predictive value (%)	100	71
Negative predictive value (%)	64	58.3

Conclusions. DSE is safe with few adverse effects. In this series, positive DSE identifies a very high risk group of CAD.

956 Special Situations in the Treatment of Acute Myocardial Infarction

Tuesday, March 26, 1996, Noon–2:00 p.m.
Orange County Convention Center, Hall E
Presentation Hour: 1:00 p.m.–2:00 p.m.

956-29 Impact of Percutaneous Revascularization on Clinical Outcome Following Acute Myocardial Infarction — An Analysis of 40,745 Patients

Michael H. Sketch, Jr., Anthony C. DeFranco, Joseph A. Puma, Sandra S. Stinnett, E. Magnus Ohman, Eric J. Topol, Robert M. Califf for the GUSTO-I Investigators. *Duke University Medical Center, Durham, NC*

The selection criteria and subsequent clinical outcome of patients undergoing PTCA following acute myocardial infarction are poorly defined. To further assess the impact of PTCA on the clinical outcome of patients who received thrombolytic therapy for an acute infarction, we analyzed prospectively collected data on 40,745 patients in the GUSTO-I trial. The study compared patients treated with PTCA (8,931) with patients not treated with PTCA (31,814).